

Remarks

REJECTION UNDER 35 USC 103

In the February 23, 2005 Office Action, claims 29, 30, 33-37, 43-45, 50-53, 56-58, 60 and 64 were rejected under 35 USC 103(a) as being unpatentable over US Patent 6,076,648 to Hatamachi et al. (hereinafter the '648 patent). Claims 29-65 were rejected as being unpatentable over US Patent 5,136,144 to Swinton et al. (hereinafter the '144 patent) in view of US Patent 5,662,201 to Gerlier (hereinafter the '201 patent). None of the claims have been amended.

The '648 Patent

The Examiner states in the Office Action that the shutter/gate 71 depicted in the '648 patent (shown, for example, in FIGS. 5 and 6) is the "functional equivalent" of the claimed non-return gate, but does not explain how such functional equivalence can be achieved. Upon closer inspection, the operation of the claimed non-return gate exhibits significant differences relative to that of the '648 patent. For example, the latter operates through linear up-and-down movement of the shutter/gate 71 that is achieved by active means as discussed at column 8, lines 57 through 59. By contrast, the claimed non-return gate is pivotably movable and biased into the note path, moving in and out of the path by purely passive means in response to the presence or absence of a note. This comports with the Applicants' stated advantage "of avoiding the need for an actuator for opening and closing the non-return gate" that is mentioned in the present specification. On the other hand, the patentee's lack of the claimed pivoted passive device is made manifest by his repeated references to moving the shutter/gate 71 up and down with the aid of a shutter motor 70 that is in turn driven by a control unit 100 and drive circuit 72, as recited at column 8, lines 58 through 60 and reiterated at column 10, lines 23 through 26, column 11, lines 8 through 11, column 23, lines 51 through 55 and column 25, lines 13 through 16. The claimed passive system represents a markedly simpler, lower-cost approach than the automated approach of the '648 patent.

The Examiner candidly admits another distinction between the active motor-driven shutter gate-based closing mechanism of the '648 patent and the claimed passive pivoting non-return gate sides, stating in numbered paragraph 2 on page 2 of the Office Action that the system is configured to move a banknote such that "if rejected, [the system] reverse[] feeds the rejected bill by reversing the conveyor. . . ." The Applicants submit that the Examiner's position forms both an accurate representation of what takes place in the device of the '648 patent and an entirely inappropriate basis for sustaining the present rejection, as the bill-reversing conveyance mechanism (as described in column 6 of the '648 patent) reverses banknotes that get jammed in the conveying channel. In addition to having a dissimilar hardware configuration, this limited, specific reversal situation stands in stark contrast to the claimed device, where the reversing means indiscriminately reverse upon either acceptance or rejection. The claimed device, by reversing regardless of whether the note is accepted and rejected, operates to reverse the leading and trailing edges of the banknote (as shown in FIGS. 16a through 16c), thereby inhibited fraudulent tactics such as "stringing", where a string is tied to the back of a note in an attempt to pull the note back out of the banknote validator once the bill has been authenticated.

The claimed device further evidences a temporal nature of operation that is lacking in the teaching of the '648 patent. As clearly stated in the independent claims, the reversible driving means is "arranged to reverse if a banknote is identified as being acceptable after the accepted banknote has cleared [the] non-return gate", and "arranged to reverse if a banknote is determined as not being acceptable before the rejected banknote has cleared [the] non-return gate. . . ." (emphasis added). In this way, the claimed non-return gate functions as a check valve that does not permit returning of an accepted banknote. This check valve-like feature, coupled with the difference in timing of the reversal depending on whether the banknote is accepted or rejected is neither taught nor suggested by the '648 patent.

"To establish a *prima facie* case of obviousness, three basic criteria must be met." MPEP 2142. Among these is the bedrock principle that all claim limitations should be taught or suggested. MPEP 2143.03. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Miller*, 169 USPQ 597, 600 ((CCPA

1971), quoting *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970)). Insofar as the Examiner has not pointed to a single instance in the '648 patent discussing the claimed requirement that include a pivotably mounted flap means biased into the banknote path, and a reversible driving means that reverses once the note has been accepted or rejected, the accompanying rejection is defective. On this requirement alone, the Examiner has failed to make out a prima facie case for obviousness, and the Applicants respectfully submit that claims 29, 30, 33-37, 43-45, 50-53, 56-58, 60 and 64 are patentable over the '648 patent.

The '144 Patent in view of the '201 Patent

The '144 patent, while having some attributes in common with the claimed device (for example, an ability to reverse directions of both rejected and accepted notes), is generally cumulative of the '648 patent that achieves note reversing through the operation of a non-return gate that cooperates with sensors, controllers, motors and the like. For example, the Examiner indicates in numbered paragraph 3 of the Office Action that the '144 patent includes a non-return gate 92 in the banknote path. Nevertheless, in a manner similar to that of the '648 patent, the gate disclosed in the '144 patent is an actively-controlled device that includes input from an "electronic control means 228 [used to] energize[a] solenoid 106 so as to cause the diverter gate 92 to be pivoted in its open position" as discussed at column 10, lines 32 through 34. In this arrangement, the diverter gate 92 of the '144 patent is not "biased into said banknote path" as required by the independent claims, but is instead biased out of the path, as discussed at column 4, lines 11 through 20 and shown in FIG. 3. Thus, the claimed non-return gate deploys automatically once a note has passed it, while the diverter gate 92 of the '144 patent must wait for an appropriate electronic signal with which to energize a solenoid and subsequently overcome a spring bias in the gate to move the gate into the banknote path. As stated above in distinguishing the '648 patent, by moving in and out of the path by purely passive means in response to the presence or absence of a note, the claimed device embodies a markedly simpler, lower-cost approach than the automated approach of the '144 patent.

The Examiner attempts to overcome this shortcoming in the '144 patent by showing the '201 patent as a secondary reference that teaches a passive gate feature. In numbered paragraph 3 of the Office Action, the Examiner states that the '201 patent teaches "a banknote validator with flap means pivoted into an open position by contact with a banknote passing in a banknote insertion direction along the banknote path". As discussed above in relation to the '648 patent, a *prima facie* case of obviousness requires that all of the claim limitations must be taught or suggested. In rejecting claims 29 through 65, the Examiner modifies the '144 patent with the '201 patent; such combination still does not teach all of the recited features of the claimed device. Specifically, the device of the '201 patent does not include the non-return gate feature of the claimed invention. The Applicants agree with the Examiner that the '201 patent discloses a passive gate 19 (which includes guide plate 26 biased with spring 26', all as shown in FIG. 2). Nevertheless, the Applicants respectfully disagree as to the nature of the gate. Gate 19 (and its related components) is not a non-return gate; it is instead limited to moving notes back and forth between banknote path 15 (called a transport system by the patentee) and an optional temporary cash storage box 24 (as shown in FIG. 1). In fact, the gate 19 (and its ancillary components) is specifically configured to permit return of notes from the temporary cash-box 24, also as shown clearly in FIG. 2 of the '201 patent. This is precisely the opposite of the Applicants' use of the term "non-return gate" in the claims, where once a note passes such gate, it cannot be retrieved through the same path.

Other distinctions relative to the '201 patent abound. For example, the only device in the '201 patent used for rejecting notes is return path 20 (as clearly shown in FIG. 2 of the '201 patent), and it does not utilize reversing features, instead employing a U-shaped 180° turn with which to achieve note rejecting. In addition, the sensing means 18 used to determine whether a banknote is acceptable is situated upstream of the routing gate 19 (all as shown in FIG. 2), so that it is impossible for the modified reference to satisfy the claim requirement that the reversible driving means reverses "if a banknote is identified as not being acceptable before the rejected banknote has cleared [the] non-return gate." Instead, the '201 patent is configured such that if a note is rejected, it merely passes through banknote path 15 and out return path 20 without ever reversing and without regard to what occurs at routing gate 19.

The Applicants respectfully submit that, taken *in toto*, there are significant features recited in the present claims that are neither taught nor suggested by the Examiner's combination of references. Accordingly, the present rejection does not satisfy the MPEP 2143.03 requirement that that all claim limitations should be taught or suggested. In addition, these differences are such that when the combined references are taken in their totality, they not only do not teach all of the recited features, but actually teach away from such a combination. A "prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303 (CAFC 1983, as cited in MPEP 2142.02). With all of the structural and operational differences between the claimed device and that of the combined '144 and '201 references, one of ordinary skill in the banknote validator art would not look to such art for use of a passive non-return gate where reversing for either note acceptance or rejection is required. Under such an "as a whole" inquiry, the attempted combination of the '144 and '201 patents evidences just such a teaching away that is prohibited in MPEP 2141.02. As such, the Applicants respectfully submit that claims 29 through 65 are patentable over the combined '144 and '201 patents.

Conclusion

Based on the remarks above, the Applicants respectfully submit that having failed to satisfy at least two prongs of the tripartite test for obviousness, the Examiner is prevented from asserting that the claims are unpatentable over the art of record. Accordingly, the Applicants submit that all of the claims presently in the application are now in condition for allowance.

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The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
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